

**WHAT IS CLAIMED IS:**

1 1. A method of establishing a routing path for packet delivery to a  
2 destination node within a packet-based subnet, said destination node having a  
3 destination node address, said method comprising the steps of:

4 launching a path setup message from said destination node;  
5 receiving said path setup message over a first interface at a first router;  
6 and

7 creating a first routing table entry for a first routing table, said first routing  
8 table entry corresponding said destination node address to said first interface,

9 wherein a packet, subsequently received at said first router and having  
10 said destination node address as a packet header destination address, is  
11 forwarded from said first router over said first interface after said first router  
12 associates said destination node address with said first routing table entry.

1 2. The method in accordance with claim 1 wherein said destination  
2 node is a wireless device.

1 3. The method in accordance with claim 2 wherein said first router is  
2 incorporated within a first wireless base station.

1 4. The method in accordance with claim 3 further comprising the step  
2 of:

3 forwarding a handoff update path setup message from a second wireless  
4 base station to said first wireless base station if said wireless device is handed  
5 off from said first wireless base station to said second wireless base station, said  
6 handoff update path setup message used to alter routing table entries for a  
7 plurality of subnet routers.

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5. The method in accordance with claim 4 wherein said plurality of subnet routers include at least said first wireless base station and said second wireless base station.

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6. The method in accordance with claim 4 wherein said handoff update path setup message is initiated from said wireless device.

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7. The method in accordance with claim 3 wherein said wireless device is able to simultaneously tune to, and receive packets from, greater than one base station.

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8. The method in accordance with claim 7 wherein said wireless device is a CDMA device.

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9. The method in accordance with claim 1 wherein said packet-based subnet is an Internet Protocol subnet.

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10. The method in accordance with claim 1 further comprising the steps of:

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forwarding said path setup message to a next router, said next router receiving said path setup message over a first interface at said next router;

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creating a next routing table entry for a next routing table, said next routing table entry corresponding said destination node address to said first interface at said next router; and

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sending a path setup message acknowledgment to said destination node address if said next router is a subnet root router.

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1            11. The method in accordance with claim 10 further comprising the  
2 step of:

3            repeating said steps of forwarding and creating a next routing table entry  
4 if said next router is not said subnet root router.

1            12. The method in accordance with claim 1 further comprising the step  
2 of:

3            maintaining said first routing table entry as a soft state in said first router,  
4 said first routing table entry overwritten with a default entry if a refresh path  
5 setup message is not received at said router within a specified period of time.

1            13. A packet router having a routing table adapted to maintain a  
2 plurality of routing table entries, said packet router comprising:

3            means for receiving a path setup message over a first interface, said path  
4 setup message including a field defining a destination address;

5            means, responsive to receiving said destination address, for generating a  
6 routing table entry corresponding packets arriving at said packet router and  
7 having said destination address as a packet header destination address to said  
8 first interface;

9            means for receiving at least one packet having said destination address  
10 as said packet header destination address;

11           means for performing a lookup of said routing table entry having said  
12 destination address and as said packet header destination address from said  
13 plurality of routing table entries;

14           means, responsive to said lookup, for forwarding said at least one packet  
15 over said first interface.

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1           14.   The packet router in accordance with claim 13 wherein said  
2 destination address corresponds to a wireless device.

1           15.   The packet router in accordance with claim 13 wherein said router  
2 is incorporated in a wireless base station.

1           16.   The packet router in accordance with claim 13 wherein said packet  
2 router is an Internet Protocol router.

1           17.   The packet router in accordance with claim 13 wherein said path  
2 setup message is a power up path setup message.

1           18.   The packet router in accordance with claim 13 wherein said path  
2 setup message is a handoff path setup message.

1           19.   The packet router in accordance with claim 13 wherein said path  
2 setup message is a refresh path setup message.

1           20.   A method of updating host-based routing table entries for a  
2 plurality of routers within a subnet when a mobile device is handed off from a  
3 first wireless base station to a second wireless base station, said subnet  
4 providing wireless access for said mobile device to a packet-based network, said  
5 method comprising the steps of:

6           creating a handoff path setup message at said mobile device;  
7           routing said handoff path setup message to said first wireless base  
8 station;

9           relating, as a routing table entry, an address for said mobile device with  
10 an interface over which said handoff path setup message is received at said first

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